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UNDERSTANDING THE EFFECTS OF CONSUMERS' VALUE-TECHNOLOGY FIT ON A MOBILE SHOPPING WEBSITE : THE CASE OF RAKUTEN ICHIBA

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Abstract

Mobile shopping is very popular nowadays. Many mobile shopping websites were founded in recent years, such as Yahoo! and Rakuten Ichiba. Most previous articles focused on theory of planned behavior, trust, flow, perceived usefulness, consumer usability preference, consumer shopping experience and decision-making, integrating technology acceptance model and perceived value. There are few studies to discuss benefits of matching discounts/bargains with a mobile shopping website, as well as how much affective reaction and flow affect continuance intention of using a mobile shopping website. The aim of this study investigates the factors (value-technology fit, affective reaction, flow) influencing continuance intention of the mobile shopping website, and mediation effects of affective reaction and flow. The results of this study show that users' value-technology fit significantly affects their affective reaction, flow, and continuance intention to use the mobile shopping website. Affective reaction and flow significantly affect users' continuance intention to use the mobile shopping website. Moreover, affective reaction and flow partially mediate relationship between value-technology fit and users' continuance intention to use the mobile shopping website, Rakuten Ichiba. The research findings have suggestions for the mobile shopping managers and future research studies.

Keywords: Mobile Shopping, Value-Technology fit, affective reaction, flow, mediation effect.

1. INTRODUCTION

The number of mobile devices accessing the Internet worldwide surpasses one billion in 2013. The explosion in Internet-enabled devices coincides with an dramatic increase in mobile Internet users worldwide (Gonsalves, 2009). A recent research on mobile service demonstrates that 57.1% of consumers have had the experience of shopping on mobile devices (Market Intelligence and Consulting Institute, 2013). According to a research study done by Allied Business Intelligence, Inc. company (ABI), the amount of global mobile shopping sales will exceed 16.3 billion US dollars, which is 12% at global mobile shopping sales. eMarketer research estimated the amount of mobile shopping will be 87 billion US dollars in 2016, and mobile commerce will increase noticeably (Musil, 2013). Thus, the mobile shopping has become more and more popular worldwide.

According to Ipsos, a global market research company, the population of using smartphones has reached more than 51% in Taiwan from 2011 to 2013. A survey of Taiwan Network Information Center (TWNIC) showed that 17.53 million people used network in Taiwan in 2012, and the penetration rate of using wireless network is 75.44%. In addition, more than 44% of people in Taiwan use smartphone or tablet personal computer (Taiwan Network Information Center, 2012). Mobile internet has emerged in people's life because more and more people buy goods on mobile devices, especially smartphones. This type of commerce is called "Mobile Commerce (MC)". Mobile Commerce refers to users carry out a transaction or search information through wireless devices. MC always has the features of interactivity, process, displaying information, and producing new capabilities such as location awareness, context sensing, and push delivery. Therefore, these features have aroused novel services, such as location-based service, and context-aware service. These characteristics of MC raised concerns for both academic and industry. MC has been an inevitable mainstream issue.

Previous mobile shopping studies focus more on theory of planned behavior (Yang, 2012), trust, flow, perceived usefulness (Zhou, 2013), consumer usability preferences (Ozok & Wei, 2010), consumer shopping experience and decision-making (Karaatli et al., 2010), integrating technology acceptance model and perceived value (Ko et al., 2009). Another research stream is fit. Previous fitness studies focus on person-environment (P-E) fit, such as Hu et al. (2007) examined applicant attraction to an organization in the context of web-based recruitment, and Okazaki and Yagüe (2012) investigated the effects of an advergame on perceived brand value in a context of mobile social networking sites. However, few studies examined the effects of value-technology fit, or the degree of matching between discounts/bargains with a mobile shopping website on continuance intention to use the mobile shopping website. Thus, the purpose of this study is to understand the factors (value-technology fit, affective reaction, flow) influencing continuance intention of the mobile shopping website of Rakuten Ichiba in Taiwan. The questions addressed in this paper are: (a) will value-technology fit influence continuance intention of the mobile shopping website directly? (b) will value-technology fit influence continuance intention of the mobile shopping website through affective reaction and flow?

The remainders of this paper are structured as follows. Section 2 describes mobile shopping, fit, affective reaction and flow. Section 3 presents the research model and hypothesis. Section 4 describes the research case and methodology. Section 5 presents the results of data analysis. Section 6 discusses the main findings and presents the conclusion. The final section presents the research limitations.

2 LITERATURE REVIEW

2.1 Mobile Commerce and Mobile Shopping

When wireless network and mobile devices usage dramatically, e-commerce develops a new commercial type, mobile shopping. Although characteristic of electronic commerce is similar to mobile commerce, electronic commerce emphasizes to conduct transactions via personal computer; however, mobile commerce emphasizes to conduct transactions and services via wireless devices such

as mobile phone (Turban et al., 2008). Since mobile devices appeared, more and more research explores about mobile commerce. Ngai and Gunasekaran (2007) reviewed 149 articles about mobile commerce, and classification five levels as follows: (1) mobile commerce theory and research; (2) wireless network infrastructure; (3) mobile middleware; (4) wireless user infrastructure; (5) mobile commerce applications and cases. Moreover, many mobile services emerge such as communication (e.g., text messages, e-mail, chat), locator and information services (e.g., store locator), commerce transactions (e.g., purchases, reservations, shopping assistance, and financial services), and content (e.g., news, updates, entertainment services) (Karaatli et al., 2010). One of remarkable mobile services is mobile shopping. Some researchers proposed different definitions in mobile shopping as shown in the following. Kumar and Mukherjee (2013) defined mobile shopping is a technology process that involves an active interaction between user and technology. Ko et al. (2009) defined mobile shopping as the activities of consumers who use wireless Internet service when shopping and purchasing via a mobile phone. Yang (2012) showed that mobile shopping is presented in a technology-mediated environment and connected via personalized mobile devices. In sum, mobile shopping is still growing up and will become an important trend in the future.

2.2 Fit

Fit shows different types of match in social science. For example, fit is to connect with individual's department, colleague, or environment and performance in the work. If they match pretty well, performance will better (Jr. et al., 1993). Person-Environment (P-E) fit was been proposed from Plato whom observed individual would search jobs that matching with oneself (Kaplan, 1950). P-E fit was defined as the degree to which individual and environmental characteristics match (Kristof-Brown et al., 2005). Pervin (1968) defined P-E fit as a fit between the personality characteristics of one individual and those of another, or between an individual and the social climate created by a group of individuals, leads to high performance.

The psychologists who researched organization behavior and industry organization had extremely interest in fit which between individual and environment (Pervin, 1968). Pervin (1968) pointed out that a "match" or "best-fit" of individual to environment is viewed as expressing itself in high performance, satisfaction, and little stress in the system whereas a "lack of fit" is viewed as resulting in decreased performance, dissatisfaction, and stress in the system. P-E fit was been used of explaining a stress about jobs (Cooper et al., 2001). Jr. et al. (1993) showed at least four different general orientations toward P-E fit: (1) fit between individual knowledge-skills-abilities and job requirements, (2) fit between individual needs, organizational structures, and reinforcement system, (3) fit between individual value orientations and organizational culture or value, and (4) fit between individual personality and perceived organizational image or personality. The amount of recent research about P-E fit is increasing, and it has been used for exploring several issues, such as LeRouge et al. (2006) used fit theory to examine job satisfaction and organizational commitment. Hu et al. (2007) adopted fit framework to examine applicant attraction to an organization in the context of Web-based recruitment. Wu et al. (2007) used P-E fit to explore between Internet recruitment websites and organizational attraction. Maurer and Cook (2011) examined its implications for the ability of companies to e-recruit high quality job applicants. Okazaki and Yagüe (2012) developed perceived brand-game fit to explore on the effects of an advergame on perceived brand value in a context of mobile social networking sites (SNSs).

After blooming development, "environment" was adapted to different situations like as Person-job fit (P-J fit), Person-group fit (P-G fit), Person-supervisor fit (P-S fit), Person-organization fit (P-O fit). In addition, Task-technology fit (TTF) is the most popular P-E fit at field of information technology. For example, Yang et al. (2013) investigated the effects of TTF on perceived IS (information system) use and individual task performance. Aljukhadar et al. (2014) used TTF theory to examine the drivers and consequences of successful task completion by a user in an online context. In recent years, more and more researchers subdivide "task" into different situations. For instance, Lee et al. (2007) presented a "Culture-technology Fit" framework to examine how the cultural characteristics of users affected their

post-adoption beliefs about the mobile Internet. Vaidya and Seetharaman (2011) attempted to bridge the gap using a “Context-technology Fit” framework to understand the factors which influence the sophistication of use and the variables underlying each of these macro level constructs. Lu and Yang (2014) examined and compared the impact of task, social, and technology characteristics on users’ intentions in using SNS by integrating the TTF model and social capital theory (social-technology fit).

2.3 Affective Reaction and Flow

The term, affection, is conceived as an umbrella for a set of specific mental process including emotions, moods, and (possibly) attitudes, and considered a general category for mental feeling process (Bagozzi et al., 1999). Ping (2013) thought that affection is a critical factor in human decisions and behaviors within many social contexts. Djamasbi and Strong (2008) thought that management information system (MIS) research using affective constructs has primarily focused on affective reactions toward the use of technology and not the affective state of users when they are introduced to information technology (IT). The positive affective reactions, includes happiness, pride, and satisfaction, whereas failure is linked to negative affect such as disgust, despair, frustration, disappointment, anger, hostility, depression, and alienation. One’s mood will influence the level of effort on a computer-related task. Research on people’s responses to computers, however, indicates that their emotional reactions include both positive (e.g. excitement, pride, satisfaction) and negative affect (e.g. feelings of isolation, frustration, alienation, and anxiousness) (Dusick, 1998) .

Csikszentmihalyi (1993) pointed out flow experience is a crucial psychological factor, which describes people’s feelings concerning an activity. Flow has been described as a state of psychological experience and an extremely rewarding experience resulting from engagement in a variety of activities, such as sports, writing, work, games and hobbies (Hsu et al., 2013). When an individual is in the flow state, he/she becomes entirely focused on their activity while experiencing many positive experiential characteristics, including great enjoyment and loss of self-consciousness. The Flow literatures have been used to describe and model the individual experience in IT use, and occur in the presence of important facilitators such as perceived control, personal enjoyment, and satisfaction. Kamis et al. (2010) pointed out joyful from the on-line shopping can influence user satisfaction. Chou and Ting (2003) thought while in the flow state, a consumer experiences a sense of happiness, accompanied by a feeling of confidence and an exploratory desire. And, they considered that flow experience, the emotional state embracing perceptual distortion and enjoyment, shows a much stronger impact on addiction.

3 RESEARCH MODEL AND HYPOTHESIS

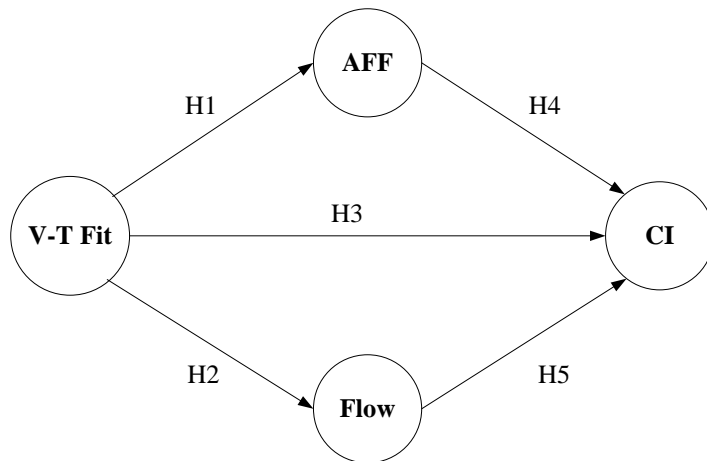
3.1 Case Description

There is a popular mobile shopping website, Rakuten Ichiba in Taiwan. The Rakuten Ichiba was born in 2007. They had cash flow and logistics of President Chain Store Corporation (7-ELEVEn, Inc.), and provided some services about on-line shopping including home delivery service and a pay-at-pickup service at convenience stores. The Rakuten Ichiba developed a mobile shopping website in 2010, and had accomplished 20% of overall sales from the mobile shopping website, and expected to grown up 50% in this year (The Rakuten Ichiba in Taiwan, 2014). Thus, we focus on this successful the mobile shopping website.

3.2 Research Model and Hypothesis

Tinsley (2000) indicated that P-E fit is an important theoretical construct in vocational, industrial/organizational, and management psychology. P-E fit is used to understand the degree of fit between a person and environments. In the context of continuance intention, Li (2013) pointed out that an individual’s affective reaction toward information system acceptance cannot be neglected. At video-game study, affective reaction which brings positive or negative reaction is based on their

performance (Bandura & Locke, 2003). Chang and Wang (2008) found that in the flow state, people become absorbed in their activity: their perceptions are narrowed to the activity itself, they lose self-consciousness, and they feel in control of their environment. Flow in the human-computer interaction is a very interesting and exploratory experience. The system should be designed for providing more users' control force and concentration, and it can lead more intentions to using system (Webster et al., 1993). According previously researches pointed out 40% of Internet users had a state of flow on the Internet (Chen & Nilan, 1999). The flow is critical factor to influence people to use information technology. Thus, relationships among value-technology fit, affective reaction, and continuance intention to use the mobile shopping website are under investigated in this study. Fig.1. shows our research model for a mobile shopping website.



V-T Fit: Value-technology fit; AFF: Affective Reaction; CI: Continuance Intention to use
Figure 1. The Research Model for a mobile shopping website

At salary job researches, there was confirmed when fitting better between employ's characters and work environment, it could influences affective reaction. The degree of this P-E fit could explain additional variance in affective work outcomes above and beyond individual and environmental factors (Vianen, 2005). Koo et al. (2006) found that the sponsoring events exhibiting a good image fit with the brand can strengthen the development of consumers' cognitive and affective responses through exposure to a brand's sport sponsorship activity. In the context of a mobile shopping website environment, the Rakuten Ichiba provided several discounts/bargains in the mobile shopping website. In this study, when consumers use discounts/bargains on a mobile shopping website, the Rakuten Ichiba, they could have a state of attractive or friendly reaction for this website. Thus, the following hypothesis is proposed:

H1: Value-Technology fit positively affects affective reaction of using the mobile shopping website.

Aaker and Lee (2006) believed that regulatory fit that could shed light on domains important to individual well-being (e.g., improving health) and provided a stronger theoretical grounding for extant work (e.g., flow experiences). They found enhances the 'feeling-right' experience as well as strength of engagement, and that the 'feeling-right' is just called flow. Regulatory fit has the strongest effect on flow experience. In the context of the mobile shopping website environment, the Rakuten Ichiba provided several discounts/bargains in the mobile shopping website. When consumers use discounts/bargains on a mobile shopping website, the Rakuten Ichiba, they could have a state of feeling-right for this website. Thus, the following hypothesis is proposed:

H2: Value-Technology fit positively affects flow experience of using the mobile shopping website.

Junglas et al. (2009) found the relationship between human drives and fit types affects on determining their impact on performance and utilization decisions for mobile information communication technologies (MICTs). Lin (2012) indicated that perceived fit and satisfaction are important precedents of the intention to continue virtual learning system (VLS) and individual performance. In the context of the mobile shopping website environment, when consumers use discounts/bargains on a mobile shopping website, the Rakuten Ichiba, they could feel happy for this website and continue to use the mobile shopping website. Thus, the following hypothesis is proposed:

H3: Value-Technology fit positively affects continuance intention to use the mobile shopping website.

Lee and Kwon's (2011) results showed that continuance intention is affected conjointly by affective factors (e.g. familiarity and intimacy). And the effects of affective factors (e.g. intimacy) were larger than those of cognitive factors (e.g. perceived usefulness). They found that relationships between consumers and web-based services which have been built up due to repetitive usage. Both affective and cognitive factors explain consumers' continuance intention. Finally, they considered the effects of affective factors such as intimacy were larger than those of cognitive factors such as perceived usefulness. Moreover, Koo et al. (2006) found the effects of consumers' cognitive and affective responses were significant in relation to intentions to purchase sport equipment in online website. Therefore, the following hypothesizes is proposed:

H4: Affective reaction positively affects continuance intention to use the mobile shopping website.

Flow has become popular construct, studied in the context of IT, and found to be useful in understanding consumer behavior (Chang & Wang, 2008). For example, Novak and Kohler (1998) applied Flow Theory to the comprehending customer navigation behavior in online environments. Webster and Trevino (1995) studied the subjective human experience of interacting with the technologies of electronic mail and voice mail. They defined the core flow experience of interacting with technology. The four characteristics of this core flow experience are: feeling in control, focusing attention on the activity, feeling curiosity, and being intrinsically interested. Flow affects all of these outcome measures and is an important factor for understanding consumer behavior in commercial Web sites (Hoffman & Novak, 1996). Hsu et al. (2012) pointed out that flow experience positively and significantly influenced the continuance intention of shopping behavior. Zhou (2013) confirmed that flow is positively related to continuance intention of mobile payment services. Moreover, Chang (2013) also showed that users who have better flow experiences are more likely to have continuance intentions of using Social network sites games (SNGs). Therefore, the following hypothesizes is proposed:

H5: Flow positively affects continuance intention to use the mobile shopping website.

4 RESEARCH METHODOLOGY

4.1 Subjects

The participants were collected from a online survey via PTT (<http://www.ptt.cc>) and Rakuten Ichiba in Taiwan. The participants were asked to fill in their e-mail address in order to avoid repeating responses. A total 137 questionnaires were collected. To ensure valid samples, the study only retained questionnaires from those who had used a mobile shopping website, the Rakuten Ichiba. There were 23 invalid questionnaires due to no experience on a mobile shopping website, the Rakuten Ichiba, with 114 usable questionnaires.

4.2 Measurement Development

Value-technology fit refers to benefits of matching with discounts/bargains and the mobile shopping website. Flow refers to a state of mind experienced by consumers who are deeply involved in the mobile shopping website (Novak et al., 2000). Affective reaction refers to a set of mental processes including emotion, moods, and (possibly) attitudes when consumers use a mobile shopping website (Bagozzi et al., 1999). Continuance intention refers to an individual's subjective likelihood of continuing to use the mobile shopping website (Jin et al., 2010). All of scale items were adapted from previous literature except for value-technology fit, which is a self-development. All items were measured on a five-point Likert scale, ranging from 1 point (strongly disagree) to 5 point (strongly agree). Flow was adapted from Novak et al. (2000), and Chang and Wang (2008). Affective reaction was adapted from Edell and Burke (1987). Finally continuance intention was adapted from Park et al. (2012) and Yang (2012). The constructs and their items are shown in Table 1.

Construct	Item	Reference
Value-Technology fit	When I look for discounts, this mobile shopping website is matched.	self-development
	When I look for bargain goods, this mobile shopping website is matched.	
	When I look for low-priced products, this mobile shopping website is matched.	
	When I find the best product for my money, this mobile shopping website is matched.	
	When I compare goods to find the best product for my money, this mobile shopping website is match.	
	When I look for the store for sales, this mobile shopping website is matched.	
	When I look for the store to find discounts, this mobile shopping website is matched.	
Affective Reaction	This website is attractive.	Edell and Burke (1987)
	This website is cool.	
	This website is friendly.	
	This website is pleased.	
Flow	I think I have ever experience flow on the mobile shopping website.	Novak et al. (2000) Chang and Wang (2008)
	Most of the time I use the mobile shopping website I feel that I am in flow.	
	I focus when I am using searching tools on the mobile shopping website.	
	I feel perceived control when I am using searching tools on the mobile shopping website.	
Continuance Intention to use	I am going to positively utilize the mobile shopping website.	Park et al. (2012) Yang (2012)
	I have continuing concern about discounts of information to use the mobile shopping website.	
	I expect this mobile shopping website to continue in the future.	
	I intend to purchase products or services via mobile phone.	

Table 1. The constructs and their items

4.3 Non-response Bias Analysis

Armstrong and Overton (1977) indicated that if persons who respond differ substantially from those who do not, the results do not directly allow one to say how the entire sample would have responded. They suggested that it can be divided the period of survey into early stage and later stage. There were 114 usable questionnaires in this study. A total of 68 respondents who completed the survey during the early stage were considered earlier respondents and 46 respondents completed the survey during the later stage. The results of the Chi-square test for the early and late respondents shows they did not

differ significantly ($p>.05$) in age and education (see Table 2). Therefore, Non-response bias is not a serious problem in this study.

Measure	Group	Sample	Chi-square	P-value
Age	Early period	68	6.354	0.174
	Later period	46		
Educaton	Early period	68	1.264	0.738
	Later period	46		

Table 2. Chi-square of Respondent Characteristics

4.4 Common Method Bias Analysis

When one factor which can explains common variances of total items was more than 50%, then there was common method bias among variances (Harman, 1976). We assessed the data set using Harmon's one-factor test to identify any common method bias. A principal component factor analysis was performed and the results excluded the potential threat of common methods bias. The combined six factors accounted for 71.4% of total variance; the first (largest) factor accounted for 49.7% (the variances explained ranges from 5.54% to 49.71%) and no general factor accounted for more than 50% of variance, indicating that common method bias may not be a serious problem in this study.

5 DATA ANALYSIS AND RESULTS

The data were analysed using IBM SPSS Statistics 19th and SmartPLS 2.0. The SPSS is used to show demographic statistics. The partial least squares (PLS) is used to examine the measurement model with reliability, convergent, and discriminant validity. PLS is also used to examine the structural model to measure the strength of relationships among the theoretical constructs.

5.1 Demographic Profiles

Descriptive information of the sample for this research indicated that the 114 participants, 43% ($n=49$) were male, and 57% ($n=65$) were female. Most of the respondents were college students (62.3%, $n=71$) and between 19 and 25 years of age (47.4%, $n=54$). Most of respondents' salaries were \$18,000 or less (36.8%, $n=42$). Descriptive information is shown in Table 3.

Measure	Item	Frequencies	Percent (%)
Sex	Male	49	43
	Female	65	57
Age	<= 18 years old	6	5.2
	19-25 years old	54	47.4
	26-35 years old	45	39.5
	36-45 years old	5	4.4
	>=46 years old	4	3.5
Education	< High school	5	4.4
	College (or Vocational)	71	62.3
	Master	34	29.8

	doctorate	4	3.5
Salary	<= \$18,000	42	36.8
	\$18,001-25,000	14	12.3
	\$25,001-35,000	30	26.3
	\$35,001-45,000	18	15.8
	>= \$45,001	10	8.8
Time to use the mobile shopping website*	1 -2 months	37	32.5
	2 -5 months	39	34.2
	5 -6 months	11	9.6
	6 -7 months	10	8.8
	> 7 months	17	14.9

**Mobile shopping: a mobile shopping website of the Rakuten Ichiba in Taiwan*
Table 3. Descriptive Statistics of Respondent Characteristics (n=114)

5.2 Measurement Model

According to criteria of Petter et al. (2007): (a) direction of causality is from construct to items (b) indicators are interchangeable (c) indicators covary with each other (d) nomological net for the indicators are not differ, our research constructs are modelled as reflective ones. The measurement model assesses the reliability and validity of this study. Three criteria suggested by Fornell and Larcker (1981) were used to evaluate the measurement scales as follows. (1) The factor loading of all items on its construct should exceed 0.7, (2) composite reliabilities (CR) should exceed 0.8, and (3) average variance extracted (AVE) of each construct should exceed 0.5. In this study, most of the indices are fit for criteria except for measurement item CI2 (see Table 4 and Table 5). The purpose of discriminant validity is to discriminate the correlate from latent variables to others. The square root of AVE for each construct should be greater than the correlation between others. In this study, the discriminant validity also meets the requirement of recommended values shown in Table 6.

Construct	Item	Item Mean	St. dev.	Factor Loading	Composite Reliability	AVE
Value-Technology fit	V-T Fit1	3.72	0.80	0.87	0.94	0.71
	V-T Fit2	3.72	0.79	0.84		
	V-T Fit 3	3.72	0.80	0.91		
	V-T Fit 4	3.76	0.83	0.87		
	V-T Fit 5	3.73	0.89	0.81		
	V-T Fit 6	3.75	0.86	0.77		
	V-T Fit 7	3.61	0.81	0.82		
Affective Reaction	AFF1	3.71	0.74	0.83	0.90	0.70
	AFF2	3.25	0.82	0.84		
	AFF3	3.6	0.83	0.81		
	AFF4	3.82	0.71	0.86		
Flow	FLOW1	3.5	0.85	0.84	0.90	0.70

	FLOW2	3.62	0.91	0.88		
	FLOW3	3.66	0.87	0.83		
	FLOW4	3.75	0.83	0.79		
	CI1	3.5	0.85	0.86		
Continuance Intention to use	CI2	3.4	1.10	0.53	0.87	0.64
	CI3	3.78	0.82	0.90		
	CI4	3.96	0.71	0.86		

Table 4. Scale Properties of Measurement Model

	V-T Fit	AFF	FLOW	CI
V-T Fit1	0.87	0.57	0.47	0.59
V-T Fit2	0.84	0.51	0.42	0.48
V-T Fit3	0.91	0.54	0.40	0.60
V-T Fit4	0.87	0.58	0.42	0.55
V-T Fit5	0.81	0.55	0.47	0.59
V-T Fit6	0.77	0.52	0.45	0.63
V-T Fit7	0.82	0.48	0.49	0.52
AFF1	0.57	0.83	0.59	0.62
AFF2	0.47	0.84	0.36	0.53
AFF3	0.52	0.81	0.40	0.57
AFF4	0.56	0.86	0.48	0.54
FLOW1	0.45	0.43	0.84	0.54
FLOW2	0.45	0.51	0.88	0.53
FLOW3	0.42	0.41	0.83	0.52
FLOW4	0.45	0.50	0.79	0.50
CI1	0.60	0.69	0.56	0.86
CI2	0.32	0.32	0.29	0.53
CI3	0.64	0.56	0.54	0.90
CI4	0.54	0.53	0.58	0.86

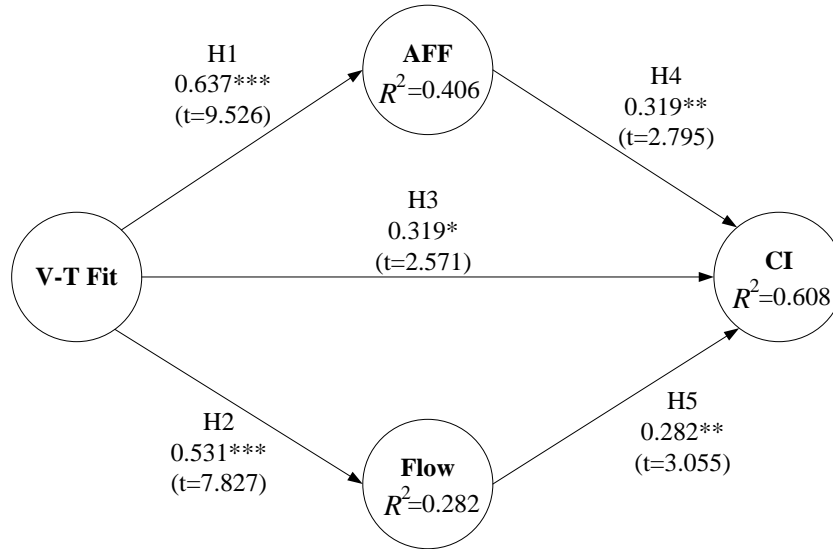
** V-T Fit: Value-technology fit; AFF: Affective Reaction; CI: Continuance Intention to use*
Table 5. Cross Loadings

Construct*	V-T Fit	AFF	FLOW	CI
V-T Fit	0.84			
AFF	0.64	0.84		
FLOW	0.53	0.55	0.84	
CI	0.67	0.68	0.63	0.80

** V-T Fit: Value-technology fit; AFF: Affective Reaction; CI: Continuance Intention to use*
Table 6. Discriminant Validity

5.3 Structural Model

The results of the structural model are shown in Fig.2. In structural model, it is important to determine the significance and strength of coefficient path and the variance explained (R^2 value). The examination of significance used the bootstrap procedure (5000 resample) of PLS. All of the hypothesized paths are significant and supported in this study.



* $p < 0.05$; ** $p < 0.01$; *** $p < 0.001$

V-T Fit: Value-technology fit; AFF: Affective Reaction; CI: Continuance Intention to use
Figure 2. Results of Structural Model

The model explains 60.8% ($R^2=0.608$) of the variance in continuance intention to use the mobile shopping website; 28.2% ($R^2=0.282$) of the variance in flow; and 40.6% ($R^2=0.406$) of the variance in affective reaction. Hypothesis 1 examines the effects of value-technology fit on affective reaction. Value-technology fit was significantly related to affective reaction ($\gamma=0.637$, $p<0.001$), supporting H1. Hypothesis 2 examines the effects of value-technology fit on flow. Value-technology fit was significantly related to flow ($\gamma=0.531$, $p<0.001$), supporting H2. Hypothesis 3 examines the effects of value-technology fit on continuance intention to use the mobile shopping website. Value-technology fit was significantly related to continuance intention to use the mobile shopping website ($\gamma=0.319$, $p<0.05$), supporting H3. Hypothesis 4 examines the effects of affective reaction on continuance intention to use the mobile shopping website. Affective reaction was significantly related to continuance intention to use the mobile shopping website ($\gamma=0.319$, $p<0.01$), supporting H4. Hypothesis 5 examines the effects of flow on continuance intention to use the mobile shopping website. Flow was significantly related to continuance intention to use the mobile shopping website ($\gamma=0.282$, $p<0.01$), supporting H5.

To evaluate mediating effect of affective reaction and flow, Esposito Vinzi et al. (2010) pointed out that the variance accounted for (VAF) is a good criteria: the no mediation is less than 20%, the partial mediation is between 20% and 80%, and the full mediation is exceed 80%. Hair et al. (2013) showed that the VAF determined the size of the indirect effect in relation to the total effect, and was explained how much of the target construct's variance was explained by the indirect relationship via the mediator variable. The VAF of affective reaction and flow in this study are 40% and 30%. Therefore the affective reaction and flow had a partial mediation between value-technology fit and continuance intention in the model.

6 DISCUSSION AND CONCLUSION

This research focuses on the effects of value-technology fit, affective reaction, and flow on continuance intention to use the mobile shopping website. The results of this study provide support for the research model and all of the coefficient paths are significant. Our result is consistent with Koo et al.'s that fit positively influences affective reaction of using a mobile shopping website (Koo et al., 2006). The result indicates that the newly proposed construct, value-technology fit of the mobile shopping website, is significant for all respondents. While users believe matching with discounts/bargains and the mobile shopping website, they probably get positive feel, like, happy and comfortable. The value-technology fit has a significant effect on flow of using the mobile shopping website. The result of this study is consistent with Aaker and Lee's that fit had positively significant on flow (Aaker & Lee, 2006). The mobile shopping websites provide a lot of useful discounts for what they need which could make users begin to use the mobile shopping website. The value-technology fit has a significant effect on continuance intention to use the mobile shopping website. The result of this study is consistent with Lin's that fit had positively significant on the continuance intention to use (Lin, 2012). While users believe matching with discounts/bargains on the mobile shopping website, they would probably continue using the mobile shopping website. The affective reaction has a significant effect on continuance intention to use the mobile shopping website. The result of this study is consistent with Lee and Kwon's that affective reaction had positively significant on continuance intention to use (Lee & Kwon, 2011). While users have a positive feeling to use the mobile shopping website, they will high probability to continue using the mobile shopping website. The flow has a significant effect on continuance intention to use the mobile shopping website. The result of this study is consistent with Chang and Wang's that flow had positively significant on continuance intention to use (Chang & Wang, 2008). While users have a state of flow in the mobile shopping website, they would probably continue using the mobile shopping website. Based on mediation test, the affective reaction and flow had a partial mediation in the model. While users have a state of positive affective or flow when searching discounts, they will have more continuance intention to use the mobile shopping website.

The purpose of this study is to study the factors (value-technology fit, affective reaction, and flow) influencing continuance intention to use the mobile shopping website. Empirical data for this study is collected via online survey. Structural equation model (SEM) is used to examine hypotheses and variance explanation. Our results show that users' value-technology fit affects their affective reaction, flow, and continuance intention to use the mobile shopping website. Affective reaction and flow are important mediators between value-technology fit and continuance intention to use the mobile shopping website. The major contribution of this study is to explain well users' continuance intention of the mobile shopping website by value-technology fit, affective reaction, and flow. The findings of this research suggest that these mobile shopping managers should pay attention to the factors which can increase fit between value and technology, the users' sense of affective reaction and flow, and offer more benefits in using a mobile shopping website that increase their competitive advantage in mobile business.

7 LIMITATIONS

This study suffers from three main limitations. First, the subjects are customers who had using experiences on a mobile shopping, the Rakuten Ichiba in Taiwan. Therefore, the generalization of the results to other mobile shopping should be cautious. Second, this study considered limited factors influencing continuance intention to use a mobile shopping website. Future studies should explore other variables of advantages on mobile commerce, which probably have effects on users' continuance intention of using the mobile shopping. Finally, this study only tested common variances of total items with Harmon's one-factor for CMB. Future studies may consider other methods for CMB. Although there are limitations, this study has important implications for managers of mobile shopping companies, and academics. From the practical perspective, the findings of this research help these

mobile shopping managers to better understand users' continuance intention on a mobile shopping website. From the academic perspective, this research finds that value-technology fit is an important factor influencing consumers' continuance intention to use a mobile shopping website. This study also shows that affective reaction and flow are important partial mediators. To enhance the effects of affective reaction and flow may strength continuance intention to use a mobile shopping website.

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